

## **Abstract**

The patent provides the titanium alloy with extra-low modulus and superelasticity containing 20 ~ 35 wt. % niobium, 2~15 wt. % zirconium, balanced titanium and other unavoidable impurity elements. The advantages of the invention alloy are shown as follows: The invention titanium alloy has superior cold processing capacity and low work hardening rate; It can be severely deformed by cold rolling and cold drawing; It has superelasticity, shape memory effect, damping capacity, low modulus, high strength, good corrosion resistance and high biocompatibility; The invention titanium alloy can be made into nano-size materials by cold deformation and extra high strength can be achieved by heat treatment.